TECHNICAL REVIEW AND EVALUATION
OF APPLICATION FOR
AIR QUALITY PERMIT NO. 71374

Printpack, Inc.

I. INTRODUCTION

This Class I permit is issued to Printpack, Inc., the Permittee, for the expansion and continued operation of a flexographic printing and converting facility located in Prescott Valley, Yavapai County, Arizona.

A. Company Information

1. Facility Name: Prescott Valley

2. Facility Location: 6800 East 2nd Street
Prescott Valley, AZ 83614

3. Mailing Address: 2800 Overlook Parkway
Atlanta, Georgia 30339

B. Attainment Classification

The facility is located in Yavapai County, which is currently designated as attainment or unclassifiable for all criteria pollutants.

II. PROCESS DESCRIPTION

A. Manufacturing

The facility utilizes flexographic printing presses, extrusion and adhesive lamination and slitting operations to produce rolls of paper and film packaging materials ready for fill operations by their customers.

B. Control Devices

1. Permanent Total Enclosures

The facility utilizes permanent total enclosures (PTE) to capture 100% of volatile organic compound (VOC) emissions from all the manufacturing operations with the exception of extrusion laminator (EL-31). A second laminator, an adhesive laminator (AL-32) is equipped with a PTE but has an alternate operating scenario that allows a by-pass to atmosphere when it is operating with water-based or very low (no more than 1%) content VOC material.

2. Thermal Oxidizers

The VOC emissions captured by the PTEs are routed to either a Catalytic Thermal Oxidizer or a Regenerative Thermal Oxidizer (RTO). Thermal oxidizers use heat from combustion of natural gas to decompose VOC to carbon dioxide and water vapor. As the expansion project at the facility progresses, the Catalytic Oxidizer

will be phased out and the RTO, with a higher VOC destruction efficiency, will control all of the emissions captured by the PTEs.

III. EMISSIONS

Table 1: Potential Emissions

Pollutant	Emissions (tons/year)	Increase in Emissions (tons/year)	Minor NSR Thresholds (tons/year)	Minor NSR Triggered?
VOC	225*	135	20	Yes
NO_X	28.63	17.64	20	No
CO	24.05	14.82	50	No
PM_{10} = $PM_{2.5}$	2.18	1.34	5	No
HAP	0.58**	Not applicable		
SO_2	0.17	0.10	20	No

* A material permit condition limits the source to a facility-wide emission limit of 225 tons per year of VOC emissions.

**A material permit condition limits the source to usage of less than 9 tons per year of any individual HAP, and less than 22.5 tons per year of combined HAPs to maintain status as an area source of HAP emissions. The 0.58 tons per year value in Table 1 includes the potential to emit HAP emissions from combustion of natural gas and 0.03 tons per year as the actual average usage of the printing and laminating operations in the period January 2017 through March 2018.

IV. MINOR NEW SOURCE REVIEW

As shown in Table 1 above, this expansion of the Printpack facility results in VOCs as the only minor new source review (mNSR) pollutant with an increase in potential to emit above the mNSR threshold. To avoid classification as a Class I source the Permittee had voluntarily accepted a facility-wide permit limitation on VOC emissions of 90 tons per year (tpy) in previous Class II Synthetic Minor Permit No. 59842. That permit is superseded by this Class I Permit No. 71374, in which the source has voluntarily accepted a facility-wide VOC emissions limit of 225 tpy to avoid classification as a major source subject to Arizona Administrative Code, Title 18, Chapter 2, Article 4.

As a result of this expansion project, with the exception of two emission units described in the next paragraphs, all modified existing and all new VOC emission units at the facility, will be installed and operated with 100% capture of VOC emissions. The captured emissions will be routed to either a Catalytic Oxidizer (Cat Ox) or a Regenerative Thermal Oxidizer (RTO) with minimum required destruction efficiencies of 95% and 97.5% respectively. As the expansion project proceeds through a phased schedule, the higher efficiency RTO will become the primary control device with the Cat Ox phasing out and expected to be removed from service. ADEQ has determined the combination of 100% capture and the minimum required destruction efficiencies of the thermal oxidizers demonstrate reasonably available control technology (RACT) as required by A.A.C. R18-2-334.D.

The existing extruder laminator, EL-31, will not be modified as part of this expansion project. With no modification, there will be no change to its potential to emit, thus it does not represent a mNSR modification and does not trigger mNSR review. One new emission unit, adhesive laminator AL-32, has been permitted to have an alternate operating scenario (AOS-1) in addition to the normal operation. Under normal operation AL-32 is required to meet the VOC capture and control established by RACT described above. AOS-1 permit conditions allow AL-32 to operate without capture or control only when using VOC materials which contain no more than 1% VOC content by weight. The restriction to this low concentration of VOC equates to a 99% reduction in VOC

emission, which ADEQ has accepted as RACT. Permit conditions require monitoring of material usage to the required 1% VOC content limit, as well as monitoring of the exhaust from AL-32 when in AOS-1 mode, with interlocks to shut the process down if VOC content is detected above threshold level.

V. APPLICABLE REGULATIONS

Table 2 displays the applicable requirements for each permitted piece of equipment along with an explanation of why the requirement is applicable.

Table 2: Verification of Applicable Regulations

Unit	Control Device	Rule	Discussion
Facility-wide	Not applicable	A.A.C. R18-2-730.D A.A.C. R18-2-730.F A.A.C. R18-2-730.G	There is no applicable New Source Performance Standards (NSPS) for flexographic printing. This operation is subject to A.A.C R18-2-730 (Standards of Performance for Unclassified Sources).
Facility-wide	Material usage restrictions	40 CFR Part 63 Subpart KK	Permit conditions restricting the usage of hazardous air pollutants, allow the source to meet the criteria of an area source. As an area source only certain limited provisions of this National Emission Standards for the Printing and Publishing Industry are applicable. Printpack demonstrates compliance to the applicable requirements of Subpart KK by compliance with emission limits, monitoring and recordkeeping requirements required by Arizona rules.
Facility-wide	Not Applicable	40 CFR Part 63 Subpart JJJJ	This rule is not applicable to Printpack because it is an area source of hazardous air pollutants.
Fuel Burning Sources	Not applicable	A.A.C. R18-2-702.B A.A.C. R18-2-730.A A.A.C. R18-2-730.B A.A.C. R18-2-730.C	These are direct fired combustors, and are therefore not subject to A.A.C R18-2-724. They are regulated under A.A.C. R18-2-730 (Standards of Performance for Unclassified Sources)

Unit	Control Device	Rule	Discussion
Presses 01, 02, 03, 04 and 05, Laminator AL-32, Catalytic Oxidizer I01 and Regenerative Thermal Oxidizer I023	I01 and I02	40 CFR Part 64	These requirements apply to pollutant specific emission units which have pre-control device potential emissions greater than the threshold to classify the source as a major source.
Fugitive dust sources	Various methods	A.A.C. R18-2 Article 6	These standards are applicable to all fugitive dust sources at the facility.
Abrasive Blasting	Wet blasting; Dust collecting equipment; Other approved methods	A.A.C. R-18-2-702 A.A.C. R-18-2-726	These standards are applicable to any abrasive blasting operation.
Spray Painting	Enclosures	A.A.C. R18-2-702 A.A.C. R-18-2-727	This standard is applicable to any spray painting operation.
Demolition/renovation operations	N/A	A.A.C. R18-2-1101.A.8	This standard is applicable to any asbestos related demolition or renovation operations.

VI. PREVIOUS PERMIT CONDITIONS

Permit No. 59842 was issued on, August 22, 2014 for the continued operation of this facility. Table 3 below illustrates if a section in Permit No. 59842 was revised or deleted.

Table 3: Permit No. 71374

Section No.	Determination		Comments
	Revised	Delete	
Att. A.	X		General Provisions - Revised to represent the most recent template language.
Att B. Sections I through V	X		Given the change from a Class II to a Class I Permit and the extensive changes with phased scheduling, theses Sections have been totally rewritten.
Att. B Sections VI and VII	X		These sections have been revised to represent the most current template language

VII. MONITORING REQUIREMENTS

A. Facility Wide

1. VOC Emissions

The Permittee is required to maintain a monthly accounting of facility-wide VOC emissions and calculate a rolling 12-month total every month. The Permittee is

required to maintain records of material usage or throughput for emissions accounting purposes. For all major equipment sources, the material usage information shall be converted to emissions using the Prism database system and the wet chemical formulation details. When captured and controlled, the Prism emissions shall be multiplied by the appropriate destruction efficiency to determine actual controlled emissions. Uncontrolled emissions shall have a destruction efficiency of 0%. Smaller processes or units may track solvent additions or equipment cycles for calculating emissions. The facility wide total shall be the sum of all controlled emissions and uncontrolled emissions.

2. HAP Usage

The Permittee is required to maintain a monthly accounting of facility-wide HAP usage and calculate a rolling 12-month total every month.

B. AL-32 and AL-32 Alternate Operating Scenario

1. The Permittee is required to complete a audio, visual, and olfactory (AVO) inspection of each bypass damper once every month.

2. The Permittee is required to continuously monitor the emissions from AL-32 to prevent diversion of exhaust to atmosphere any time the VOC content is greater than 5% of the lower explosion limit of propane.

3. The Permittee is required to monitor and keep records of the position of each bypass damper.

4. The Permittee is required to maintain a record of all changes between normal operation and alternate operating scenario.

C. Catalytic Oxidizer

1. The Permittee is required to validate the temperature sensor at a minimum of once per year.

2. The Permittee is required to record the catalyst bed temperature at least 4 times per hour and calculate a 3 hour rolling average temperature.

3. The Permittee is required to conduct a vibration analysis on the fan/motor in compliance with the Operation and Maintenance Plan.

4. The Permittee is required to conduct a media bed inspection and maintenance annually.

D. Regenerative Thermal Oxidizer

1. The Permittee is required to validate the temperature sensor at a minimum of once per year.

2. The Permittee is required to record the combustion chamber temperature at least 4 times per hour and calculate a 3 hour rolling average.

3. The Permittee is required to conduct a functional inspection of the temperature

monitoring system, the blowers and poppet valves daily.

4. The Permittee is required to conduct an inspection and maintenance of the burner annually.

E. Permanent Enclosures

1. The Permittee is required to record the differential pressure of the press room total enclosure a minimum of once per shift.

2. The Permittee is required to record the static pressure in the final inlet duct for regenerative thermal oxidizer control device.

F. Combustion Sources of (EL-31, AL-32, I01 and I02)

1. The Permittee is required to keep records of fuel supplier certifications noting the lower heating value and sulfur content.

2. The Permittee is required to monitor opacity from the listed emission sources quarterly.

G. Fugitive Dust

1. The Permittee is required to keep record of the dates and types of dust control measures employed.

2. The Permittee is required to monitor for visible emissions from fugitive sources quarterly.

H. Periodic Activities

1. The Permittee is required to record the date, duration and pollution control measures of any abrasive blasting project.

2. The Permittee is required to record the date, duration, quantity of paint used, any applicable SDS, and pollution control measures of any spray painting project.

3. The Permittee is required to maintain records of all asbestos related demolition or renovation projects. The required records include the "NESHAP Notification for Renovation and Demolition Activities" form and all supporting documents.

VIII. TESTING REQUIREMENTS

A. Catalytic Oxidizer (I01)

The Permittee is required to complete an EPA Reference Method 25A performance test on I01 by the end of August 2019, if Press 03 and the Catalytic Oxidizer are not permanently taken out of service by that date. If Press 03 and the Catalytic Oxidizer remain in service, a subsequent test must be completed in the fourth calendar quarter of 2021.

B. Regenerative Thermal Oxidizer (I02)

The Permittee is required to complete EPA Reference Method 25A performance tests on the Regenerative Thermal Oxidizer per the following schedule:

1. Initial test no later than 30 days after Press 04 has been released to production.

2. A second test no later than 30 days after Press 05 has been released to production.

3. A subsequent test in the fourth year of the permit term (CY 2022).

C. Permanent Enclosures

The Permittee is required to complete an EPA Method 204 test on each enclosure concurrently with every performance test on each thermal oxidizer. The Permittee is required to monitor and record the static pressure in the final inlet duct for the regenerative thermal oxidizer control device during each Method 204 Test of an enclosure controlled by the regenerative thermal oxidizer.

The Permittee is required to complete the Method 204 Test and concurrent static pressure monitoring at each enclosure at every occurrence of a connection or removal of a press or laminator to the inlet header of either thermal oxidizer.

IX. COMPLIANCE HISTORY

There have been two facility inspections, one performance test and ten report reviews completed during the term of the previous permit. No cases or alleged violations appear to be associated with this facility or place identification number at this time.

X. LIST OF ABBREVIATIONS

A.A.C. ..... Arizona Administrative Code
ADEQ ..... Arizona Department of Environmental Quality
AOS ..... alternate operating scenario
ARS ..... Arizona Revised Statutes
CAM ..... compliance assurance monitoring
CEMS ..... continuous emissions monitoring system
CFR ..... Code of Federal Regulations
CO ..... carbon monoxide
COMS ..... continuous opacity monitoring system
CY ..... calendar year
fpm ..... feet per minute
°F ..... degrees Fahrenheit
HAP ..... Hazardous Air Pollutant
mNSR ..... minor new source review
NDO ..... natural draft opening
NO_x ..... nitrogen oxides
NSR ..... new source review
O_3 ..... ozone
PM_{10} ..... particulate matter with an aerodynamic diameter equal to or less than 10 microns
$PM_{2.5}$ ..... particulate matter with an aerodynamic diameter equal to or less than 2.5 microns
PSD ..... prevention of significant deterioration
PTE ..... potential to emit
RTO ..... regenerative thermal oxidizer
SDS ..... Safety Data Sheet
SO_2 ..... sulfur dioxide
tpy ..... tons per year
VOC ..... volatile organic compound